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Ian Revie

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MAGINOT, MOORE & BECK, LLP

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte IAN REVIE and MICHAL SLOMCZYKOWSKI

Appeal 2009-010636
Application 10/505,304
Technology Center 3700

Before LINDA E. HORNER, JOHN C. KERINS, and
STEVEN D.A. MCCARTHY, *Administrative Patent Judges*.

KERINS, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Ian Revie and Michal Slomczykowski (Appellants) seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 2-8, 12-16, 19, 20 and 22-27, all of the claims currently pending in the application. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We AFFIRM.

THE INVENTION

Appellants' claimed invention is to a surgical instrument system that employs a drill bit having an elongate shaft bearing a plurality of marker rings on its surface to be used in determining the position and orientation of the shaft during surgery. Claim 5, reproduced below, is illustrative of the claimed subject matter:

5. A surgical instrument system, which comprises:
 - a. a drill bit including an elongate shaft which defines a drill bit axis, the shaft bearing a plurality of marker rings arranged in a predetermined pattern on the surface of the shaft,
 - b. at least two receiving devices which are spaced apart for receiving stereoscopic signals from the rings on the drill bit,
 - c. a data processor for analysing the signal from the rings and generating information relating to the position and orientation of the drill bit relative to the receiving device, and
 - d. a drive unit operable to rotate the drill bit about the drill bit axis.

THE REJECTIONS

The Examiner has rejected claims 2-6, 8, 12-15, 19, 20, 22, 23 and 25-27 under 35 U.S.C. § 103(a) as being unpatentable over Kienzle (US 6,478,802) in view of Gillies (US 6,272,370). The Examiner has further rejected claims 7, 16 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Kienzle in view of Gillies and Ben-Haim (US 6,203,493).

ISSUES

Did the Examiner err in concluding that it would have been obvious to a person of ordinary skill in the art to modify the drill bit of Kienzle to provide a plurality of marker rings thereon, in view of the teachings of Gillies?

ANALYSIS

Obviousness--Kienzle/Gillies--Claims 2-6, 8, 12-15, 19, 20, 22, 23, 25-27

Claims 5, 8 and 19 are independent. Appellants present the same arguments for patentability for claims 8 and 19 as they do for claim 5. (App. Br. 17-18). Appellants rely on those same arguments for the patentability of dependent claims 2-4, 6, 12-15, 20, 22, and 23. We consider claim 5 to be representative of the group, with the rest of these claims standing or falling with claim 5. The patentability of claims 25-27 is separately argued, and those arguments will be addressed herein following the analysis of the rejection of claim 5.

The Examiner found that Kienzle discloses a surgical instrument system having all elements set forth in claim 5, with the exception of providing a plurality of marker rings arranged in a predetermined pattern on the surface of the drill shaft therein. (Ans. 4-5). Kienzle, however, does

disclose the use of markers and an optical detector system for determining and displaying the pose of the drill bit used in Kienzle. (Kienzle, col. 2, ll. 30-45). The Examiner found that Gillies discloses the provision of a plurality of marker rings arranged along the elongate shaft of an endoscopic instrument to provide easily identifiable reference points for trackability and localization. (Ans. 5). Appellants do not contest these findings.

The Examiner concluded that it would have been obvious, in view of the teachings of these two references, to use a plurality of marker rings on the shaft of the drill bit in the Kienzle system “in order to more accurately define the location and orientation of the shaft as it enters the body.” (*Id.*). Appellants disagree with the Examiner’s conclusion, but do not contest that the Examiner’s stated reason to combine the teachings is flawed or would not achieve the result that the Examiner ascribes to the modification of the Kienzle system. (App. Br., *passim*; Reply Br., *passim*).

Appellants contend that it would not have been reasonable for a person of ordinary skill in the art to place a plurality of markers around the shaft of the Kienzle drill bit, in that,

[b]y placing a plurality of marker rings around the distal end of Kienzle’s drill bit, in a manner similar to Gillies’ placement of radiopaque markers 6 around the distal end of its soft, flexible cerebral catheter 1, the marker rings on the distal end of Kienzle’s drill bit would be subjected to a significant amount of friction during a drilling operation. This frictional contact would likely result in the wearing off of the marker rings from the shaft of the drill bit. No similar wearing issues exist with respect to the use of Gillies’ cerebral catheter.

(App. Br. 15).

Appellants here appear to be asserting that Gillies discloses positioning of rings only on the distal end of the catheter in Gillies, and that to so position marking rings on the drill bit shaft of Kienzle might lead to wear problems. This argument amounts to a contention that the references teach away from the combination.

The Examiner, however, notes that Gillies discloses positioning marker rings along the length of the catheter, and not solely at the distal end. (Ans. 8-9; Gillies, Fig. 1; col. 13, ll. 24-26). Moreover, it is not essential that the teachings of the Gillies reference be bodily incorporated into the Kienzle device in order to combine the references. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). The Examiner is relying on Gillies as teaching the provision of marker rings along the length of a working shaft of an instrument that is inserted into a patient in order to obtain the improved accuracy in determining location and orientation of the working shaft, and that the shaft of the drill bit in Kienzle is a corresponding structure or element to which those teachings would be applied. (Ans. 8).

A person having ordinary skill in the art is not an automaton, *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 421 (2007), and would here have been capable of positioning the marker rings at particular positions along the drill bit to minimize issues such as wear due to friction, if such issues indeed were seen as adversely impacting performance or usage life. The prior art need not provide precise teachings directed to the specific subject matter of the claim, as it is permissible to take into account the inferences and creative steps that a person of ordinary skill in the art would employ. *Id.* at 418.

The Examiner's stated reason to combine the teachings is not argued by Appellants as being unsound. The proposed combination is seen as

nothing more than an obvious application of the known technique of providing markers along the length of a medical or surgical device on a similar prior art medical or surgical device ready for this improvement. *Id.* at 417.

We are further not persuaded, for essentially the same reasons, that persons of ordinary skill in the art would liken the catheter of Gillies to the drill apparatus of Kienzle (instead of the drill bit), due to those elements being moved in relation to a patient's body solely as a result of a corresponding movement of a surgeon's hand, as urged by Appellants. (App. Br. 16). The catheter of Gillies and the drill bit of Kienzle are the operating elements that will penetrate the human body, and are the elements for which position and orientation information is important, and we thus agree with the Examiner that persons skilled in the art would find these to be corresponding structures on the two devices.

Appellants further assert that the fields involving navigating the end of a catheter and monitoring the position of a drill bit are significantly different, such that the skilled artisan looking to improve the accuracy of the position detecting of the drill bit would not take into consideration the catheter navigation technology disclosed in Gillies. We are not persuaded. Appellants do not provide any facts or analysis in support of the conclusory statement that the involved fields are "significantly different", such that a person of ordinary skill in the art would not look to position markers employed on axially extending catheters in attempting to improve the accuracy of determining the position of an axially extending surgical drill bit. Both Kienzle and Gillies address problems relating to the accurate navigation and positioning elongated structures in body parts. (*Compare*

Kienzle, col. 2, ll. 7-9 *with* Gillies, col. 9, ll. 22-26).

The remaining arguments advanced by Appellants are mainly in the nature of pointing out differences in the references individually, and are not directed to the combination of the teachings, and thus are not persuasive of error in the Examiner's conclusion of obviousness. The rejection of representative claim 5 and all other claims grouped therewith will be sustained.

Appellants argue claims 25-27 separately. These claims call for the drill bit to have a proximal portion bearing the plurality of markers and a distal portion bearing a cutting surface.

Upon careful inspection, the argument advanced for the patentability of these claims is essentially the same as the argument advanced with respect to claim 5, to the effect that persons skilled in the art would, in view of Gillies, place markers along the length of the drill housing of Kienzle, rather than along the drill bit, as the drill housing of Kienzle and catheter of Gillies are components whose movements are caused solely by a corresponding movement of a surgeon's hand. (App. Br. 19-20). As stated above, we do not find this argument to be persuasive.

The rejection of claims 25-27 will thus also be sustained.

Obviousness--Kienzle/Gillies--Claims 7, 16, 24

Appellants present no arguments for the patentability of claims 7, 16 and 24 separate and apart from those raised with respect to independent claims 5, 8 and 19, from which these claims depend, respectively. For the reasons discussed above directed to claim 5, we are not persuaded that the Examiner erred in the conclusion of obviousness, and this rejection will be sustained as well.

CONCLUSIONS

The Examiner did not err in concluding that it would have been obvious to a person of ordinary skill in the art to modify the drill bit of Kienzle, in view of the teachings of Gillies, to provide a plurality of marker rings on the shaft of the Kienzle drill bit.

DECISION

The decision of the Examiner to reject claims 2-6, 8, 12-15, 19, 20, 22, 23 and 25-27 as being unpatentable over Kienzle and Gillies, and to reject claims 7, 16 and 24 as being unpatentable over Kienzle, Gillies and Ben-Haim is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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